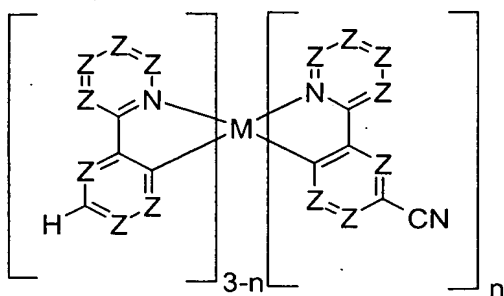
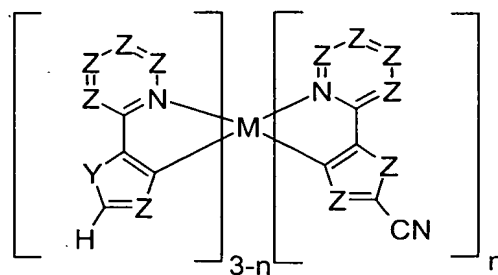


## Patent Claims:

## 1. Compounds of the formula (I) and (II),



compounds (I)



compounds (II)

5

whereby the symbols and indices have the following meanings:

M Rh, Ir;

Z is identical or different with each occurrence of N, CR ;

Y O, S, Se;

10

R is identical or different with each occurrence of H, F, Cl, NO<sub>2</sub>, CN, a straight-chain or branched or cyclical alkyl or alkoxy group with 1 to 20 C atoms, whereby one or more non-neighbouring CH<sub>2</sub> groups can be replaced by -O-, -S-, -NR<sup>1</sup>-, or -CONR<sup>2</sup>- and whereby one or more H atoms can be replaced by F, or an aryl or heteroaryl group with 4 to 14 C atoms, which can be substituted by one or more non-

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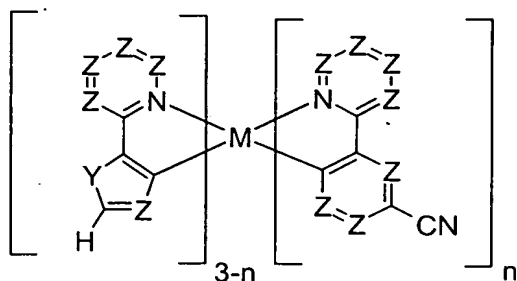
aromatic radicals R; whereby several substituents R, both on the same ring as well as on the two different rings together, can in turn set up a further mono- or polycyclical ring system;

R<sup>1</sup>, R<sup>2</sup> are identical or different, H or an aliphatic or aromatic hydrocarbon radical with 1 to 20 C atoms;

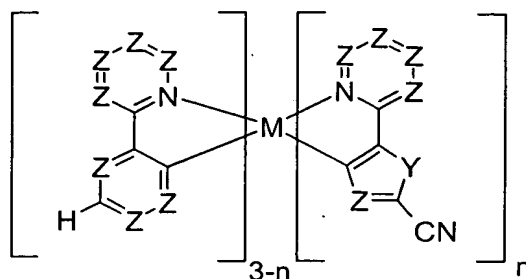
20

n is 1, 2 or 3

## 2. Compounds of the formula (Ia) and (IIa)



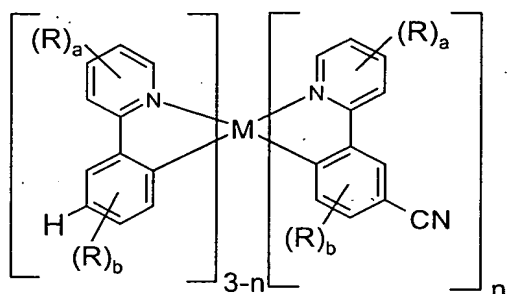
compounds (Ia)



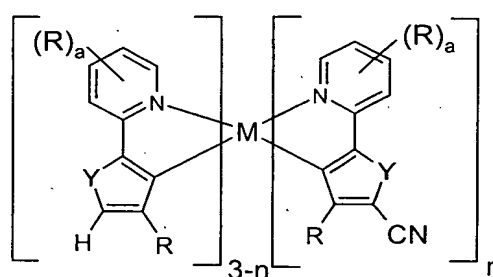
compounds (IIa)

whereby the symbols and indices have the meanings as in claim 1.

3. Compounds of the formula (III) and (IV),



compounds (III)



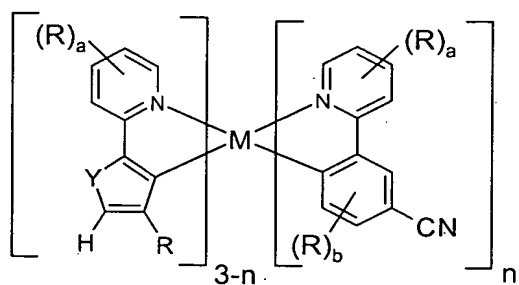
compounds (IV)

whereby the symbols M, Y, R, R<sup>1</sup>, R<sup>2</sup> and indices n have the meanings as in claim 1 and

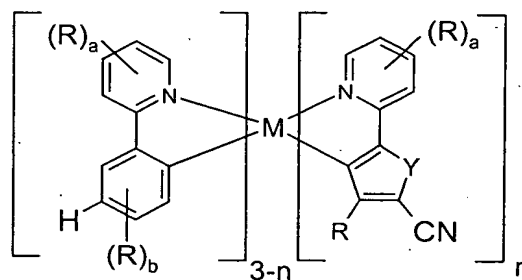
a is 0, 1, 2, 3 or 4, preferably 0, 1 or 2, particularly preferably 0 or 1;

b is 0, 1, 2 or 3, preferably 0 or 1.

4. Compounds of the formula (IIIa) and (IVa)



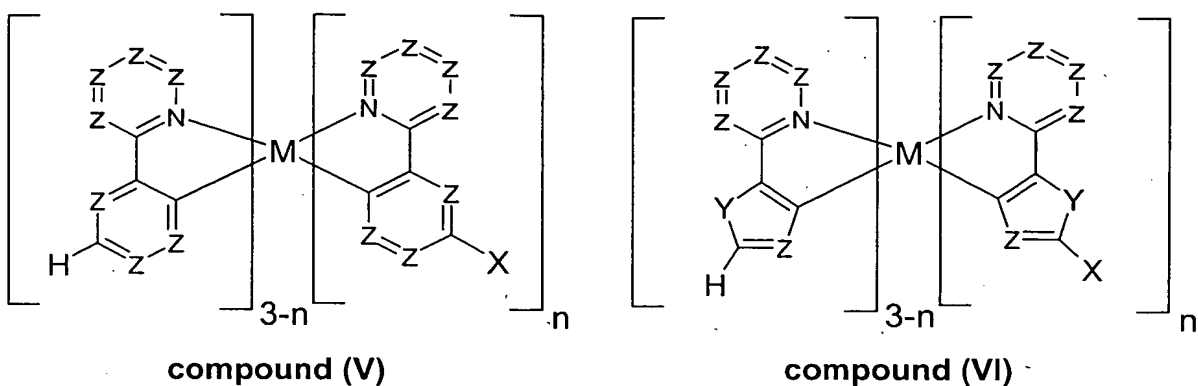
compounds (IIIa)



compounds (IVa)

whereby the symbols and indices have the meanings as in claim 1 and 3.

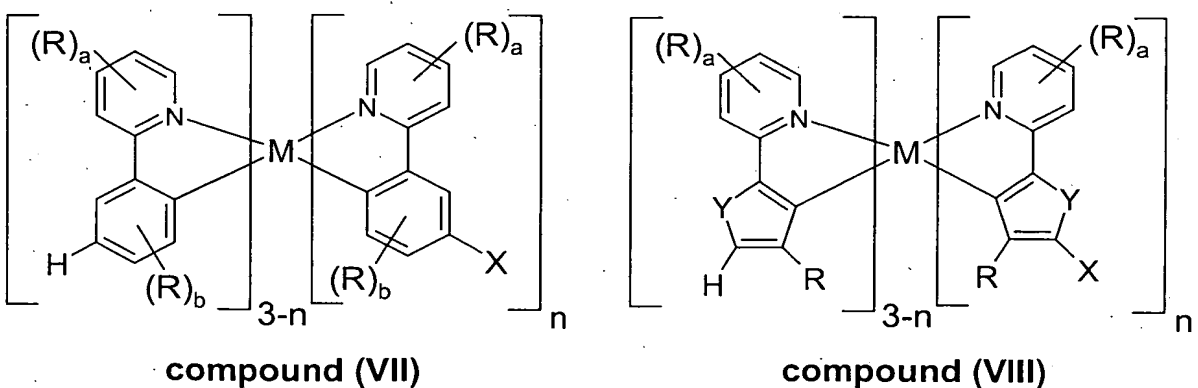
5. The method for the production of the compounds according to claim 1,  
by conversion of the compounds (V) and (VI),



wherein

X is Cl, Br or I and wherein M and the radicals and indices Z, Y and R have the meanings stated in claim 1, with cyanisation agents.

6. The method for the production of compounds according to claim 3,  
by conversion of the compounds (VII) and (VIII),



wherein

X is Cl, Br or I and wherein M and the radicals and indices Y, R, a, and b have the meanings stated in claims 1 and 3, with cyanisation agents.

7. The method according to claim 5 and/or 6, characterised in that, as cyanisation agents, use is made of systems with cyanide sources which contain the cyanide ion in ionic or coordinatively bound form.

5 8. The method according to one or more of claims 5 to 7, characterised in that copper(I)cyanide or nickel(II)cyanide are used as cyanisation agents.

9. The method according to one or more of claims 5 to 8, characterised in that, as the cyanisation agent, use is made of zinc(II)cyanide in the presence of zinc and in  
10 the presence of nickel or palladium or a nickel or palladium compound and optionally a phosphorus-containing additive.

10. The method according to one or more of claims 5 to 9, characterised in that the molar ratio of cyanisation agents (1) and (2) to compounds (V), (VI), (VII) and (VIII) amounts to  $1n : 1$  to  $10n : 1$ , preferably  $1.5n : 1$  to  $3n : 1$ .  
15

11. The method according to one more of claims 5, 6, 9 and 10, characterised in that the molar ratio of zinc(II)cyanide zu zinc in cyanisation agents (2) amounts to  $1 : 0.1$  to  $1 : 0.001$ , preferably  $1 : 0.05$  to  $1 : 0.005$ .  
20

12. The method according to one or more of claims 5, 6 and 9 to 11, characterised in that the ratio of nickel, a nickel compound, palladium or a palladium compound to compounds (V), (VI), (VII) and (VIII) amounts to  $0.1n : 1$  to  $0.00001n : 1$ .

25 13. The method according to one or more of claims 5, 6 and 9 to 12, characterised in that the ratio of the phosphorus-containing additive to nickel, a nickel compound, palladium or a palladium compound amounts to  $0.5 : 1$  to  $1000 : 1$ .

30 14. An electronic component containing at least one compound according to one or more of claims 1 to 4.

15. The electronic component according to claim 14, characterised in that it concerns organic organic light diodes (OLEDs), organic integrated circuits (O-ICs),

organic field-effect transistors (OFETs), organic thin-film transistors (OTFTs), organic solar cells (O-SCs) or also organic laser diodes (O-lasers).